

George Washington Birthplace National Monument

Natural Resources – What is Scientific Classification and Binomial Nomenclature



Scientific classification for life forms is a process by which, generally, plants and animals are identified based on a set of criteria. This is certainly not a new concept since even the Greek philosopher Aristotle (384-322 B.C.) worked on trying to classify different species. Today, however, many researchers around the world utilize the following basic form of scientific classification which indicates taxonomic rank. The style of this classification brings us from the large realm of living organisms down to a more specific type of plant or animal. While some systems and experts may differ, this should help you with the basics. As examples, we will use two native species which can be found here at George Washington Birthplace National Monument:

American Beaver (*Castor canadensis*), and the Seashore Mallow (*Kosteletzkya virginica*).



R. Harrison Wiegand, Maryland
Department of Natural Resources

Taxonomic Ranks	American Beaver	Seashore Mallow	This Taxonomic Rank level tells us:
Kingdom –	Animalia	Plantae	Is it a plant, animal, or other living organism such as algae?
Phylum/Division -	Chordata	Magnoliophyta	Basic body structure of an animal or whether a plant has flowers.
Class -	Mammalia	Magnoliopsida	The animal is a mammal, and the plant's seed has two leaves.
Order -	Rodentia	Malvales	Animal's incisor teeth keep growing. Identifies reproductive plant traits.
Family -	Castoridae	Malvaceae	Mammal that lives around water. Plant in the Mallow family.
Genus -	Castor	Kosteletzkya C. Presl	Specifically a type of beaver, and a kosteletzkya plant.
Species -	C. canadensis	Kosteletzkya virginica	Whose common names are American Beaver and Seashore Mallow.



Binomial nomenclature can often be viewed as the “scientific” or “formal” name of a species. This name is typically written in a Latin format and contains at least two parts. The first part tells us the name of the genus, and the second part identifies the specific species. Thus using an example from the scientific classification above, *Castor* identifies the genus as a type of beaver. *Canadensis* tells us the species is Canadian, but is actually the only *Castor* genus beaver species in North America. Most species have common names more familiar to us than their formal ones, thus *Castor canadensis* is more widely known here simply as the American Beaver.

ACTIVITY

Word Bank: Hominidae sapiens Chordata Animalia Primates Homo Mammalia

Fill in the empty blanks using the words from the word bank. *You might be able to use the Castor as an example.*

Kingdom - _____ Phylum – Chordata Class - _____ Order - _____

Family - Hominidae Genus - _____ Species – H. _____

Therefore, **your** binomial nomenclature is Homo _____, and our common name is humans.

Great job! You are off to an awesome start with natural resources!